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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,939	08/26/2003	John L. Galvagni	AVX-187-DIV	3080

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EXAMINER	
PHAN, THIEM D	

ART UNIT	PAPER NUMBER
3729	

DATE MAILED: 06/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/647,939	GALVAGNI ET AL.	
	Examiner	Art Unit	
	Tim Phan	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/8/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed on 3/28/06 has been fully considered and made of record.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 6, 7 and 9-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Novak (US 6,215,372).

With regard to claim 6, Novak teaches a method for reducing electrical resonances and noise propagation in multilayer board, comprising:

- producing a multilayer component (Fig. 6, 600) including at least first and second electrically conductive layers (Fig. 6, items 602, 604, 606 or 608) separated by an insulating layer (Fig. 6, items 610, 612 or 614);

- providing a resistive layer (Fig. 6, 650 or 652) with the insulating layer and the first and second electrically conductive layers; and
- adjusting the ESR (Col. 8, lines 59-61; col. 9, lines 5-20) of the component by varying the effective resistance of the resistive layer.

With regard to claim 7, Novak teaches that the providing step comprises:

- providing the resistive layer (Fig. 6, 650 or 652) between the insulating layer (Fig. 6, 610 or 614) and one of the first or second electrically conductive layers (Fig. 6, 602 or 608).

With regard to claims 9 and 11, Novak teaches that the adjusting step comprises:

- varying the effective resistance of the resistive layer by adjusting the thickness of the resistive layer (Fig. 1, h) for the capacitance value equation (Col. 10, line 50).

With regard to claims 10 and 12, Novak teaches that the adjusting step comprises:

- varying the effective resistance of the resistive layer by adjusting the composition of the resistive layer (Col. 9, lines 5-20).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novak.

With regard to claim 8, Novak teaches a method for reducing electrical resonances and noise propagation in multilayer board, including the adjusting steps of:

- perforating one of the first or second electrically conductive layers (Fig. 10, items 1002, 1004, 1006 or 1008) with a plurality of through-holes (Fig. 10, 1022 or 1024); and
- varying the effective resistance of the resistive layer by adjusting capacitive islands (Fig. 6, 652 or Fig. 10, 1052) at selected areas or distances from vias (Fig. 6, 622 or Fig. 10,10220) whereby the extent of coverage of the perforated electrode varies the effective resistance of the resistive layer, except for detailing these selected areas or distances as varying and spacing diameters of through-holes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to consider these selected areas or distances as varying and spacing diameters of through-holes, which can vary and match the impedance of the multilayer circuit in order to reduce noise and any ground bounce signal.

With regard to claim 13, Novak teaches a method for reducing electrical resonances and noise propagation in multilayer board, which reads on applicants' claimed invention, including:

- producing a multilayer component (Fig. 6, 600) having a plurality of successively stacked electrode layers (Fig. 6, items 602, 604, 606 or 608);
- providing separate insulating layers (Fig. 6, items 610, 606 or 614) sandwiched between each of the electrode layer; and
- varying a physical property of selected of the separate insulating layers with different capacitance (Fig. 6, 652) whereby the resonance characteristics of the multi-layer component are adjusted (Abstract); except for varying the thickness of selected of the separate insulating layers such that the separate insulating layers are characterized by at least two different thicknesses.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the thickness of selected of the separate insulating layers such that the separate insulating layers are characterized by many different thicknesses, since it is known in the art that the physical property or capacitance is dependent also on the thickness (h) of the insulating layer based on the mentioned equation in column 8, lines 41-44, therefore one of ordinary skill in the art, by applying the mentioned equation (Col. 5, line 10), can vary the capacitance of the conductor (Fig. 10, 1022) by varying the dielectric constant (Fig. 10, 1052), the thickness of the insulating layers (Fig. 10, items 1010 or 1012 or 1014) of the substrate in order to come up with the desired capacitance for the conductor on that substrate.

Response to Arguments

6. Applicants' arguments with respect to claims 6-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Applicants' amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Phan whose telephone number is 571-272-4568. The examiner can normally be reached on M - F, 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tim Phan
Examiner
Art Unit 3729

tp
May 30, 2006

A. DEXTER TUGBANG
PRIMARY EXAMINER